I, Sandra Jayne PARSONS BSc, MA,

translator to RWS Group plc, of Europa House, Marsham Way, Gerrards Cross, Buckinghamshire, England, hereby declare that I am conversant with the English and Japanese languages and am a competent translator thereof. I declare further that to the best of my knowledge and belief the following is a true and correct translation of the accompanying document in the Japanese language.

Signed this 30th day of April 2002

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For and on behalf of RWS Group plc

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Adhesive sheet with film and device for the manufacture thereof

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Specification

1 Title of the invention

Adhesive sheet with film and device for the manufacture thereof

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- 2 Scope of the patent claims
- 1. Adhesive sheet with film, wherein an adhesive layer is formed on the underside of the sheet, a film having a peel-off layer on the surface is adhered to said adhesive layer, an adhesive layer is provided on the underside of said film, perforated lines are formed in the abovementioned sheet so as to reveal said film, and a peel-away guide part is formed on one part of the abovementioned sheet delimited by said perforated lines.
- 2. Adhesive sheet with film according to Claim 1, wherein the abovementioned peel-away guide part is a non-adhesive layer part provided on the underside of the sheet.

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- 3. Adhesive sheet with film according to Claim 1, wherein the abovementioned peel-away guide part is a non-adherent part formed such that the adhesive layer on the underside of the sheet does not adhere to the film.
- 4. Adhesive sheet with film according to Claim 1, wherein a non-see-through covering layer is provided on the underside of the abovementioned sheet.
 - 5. Device for the manufacture of an adhesive sheet with film and provided with: means for transferring the sheet and the peel-off sheet respectively; means for coating the underside of the sheet and the surface of the peel-off sheet respectively with adhesive; means for heating the abovementioned sheet and peel-off sheet coated with adhesive; means for adhering a film having a peel-off layer on the surface to the face coated with adhesive of the peel-off sheet; and means for adhering the face coated with adhesive of the abovementioned sheet to the surface of said film.

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3 Detailed description of the invention

The present invention relates to an adhesive sheet with film such that it is possible to conceal the part to be affixed to until the time comes to break the seal, and a device for the manufacture thereof.

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Affixing a transparent film and a sheet adhered to said film to a postcard or the like has been proposed in order to conceal specific parts of goods and the writing side of documents such as postcards and the like, but there were times when it became impossible to peel off with ease

- 3 -

when breaking the seal, and when it was not possible to break the seal cleanly, and there were many times when production could not be achieved economically because it was complicated.

The present invention pertains to a system which improves upon these types of disadvantage and which has many other features in addition thereto, and is an adhesive sheet with film, wherein a film having a peel-off layer on the surface is attached to the underside of a sheet, an adhesive layer is provided on the underside of said film and said adhesive layer is made so as to adhere to the part to be affixed to of the postcard or the like, and, in order to reveal said film, perforated lines are provided in the abovementioned sheet, and a peel-away guide part is formed on one part of the sheet delimited by said perforated lines.

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Further, with the present invention, a device is provided for manufacturing the adhesive sheet with film with which, while transferring the sheet and the peel-off sheet, the underside of said sheet and the surface of the peel-off sheet respectively are coated with adhesive, adhesive is fixed to each face by heating at the respective heating parts, and, thereafter, a film having a peel-off layer on the surface is adhered to the face coated with adhesive of the peel-off sheet, and the face coated with adhesive of the abovementioned sheet is adhered to the surface of said film. Adhesive sheets with film obtained in this way can be printed appropriately on the surface and punched to a specific size, perforated lines may be formed and a peel-away guide part may be formed when appropriate.

A detailed description will now be given in accordance with the drawings which show embodiments.

Figure 1 is a perspective view of the inventive adhesive sheet with film. Sheet (1) is such that a film (2) is adhered to the underside thereof, the underside of said film and a projecting part (3) of the abovementioned sheet are adhered to a peel-off sheet (4), there are perforated lines (5), (5) to the inside of the outer edge of said film (2), and a perforated line (6) is formed along one perforated line (5) to delimit a tongue piece (7). It is possible to provide an appropriate display on the surface of said sheet by printing or the like, and to make the overall shape circular or triangular or any other appropriate shape. It is also possible not to provide the peel-off sheet continuously, but to provide it cut and separated into individual sheets, to form labels or tags, or peel-off prize cards. Giving detailed descriptions of each of the abovementioned configurations with reference to Figures 2 to 5, it is possible to form an adhesive layer (8) on the underside of the abovementioned sheet (1), or in cases where said sheet is see-through, to mix grey, brown or the like dark pigments into said adhesive layer (8), or to stick on a coloured film (9) as shown in Figure 3, or to provide a covering layer by implementing dark-coloured printing of the back of the sheet and then forming the

abovementioned adhesive layer (8) on the underside of said covering layer. In the part corresponding to the back of the tongue piece (7) delimited by the abovementioned perforated lines (5), (6), a peel-away guide part is formed so as to make peeling away easy. It is possible to form said peel-away guide part in various shapes, and as shown in Figure 2 and Figure 4, it can be formed by not providing an adhesive layer in the part where the pulling away of the tongue piece starts or along the tongue piece, to form a non-adhesive layer part (no paste) (10), or, as shown in Figure 5, ink, varnish, medium or the like can be printed on the underside of the adhesive layer (8) to provide a non-adherent part (masked paste) (11).

The abovementioned film (2) is made of a transparent or coloured transparent material which can be seen through, a peel-off layer (12) is provided in the surface, and an adhesive layer (13) is formed in the underside. The abovementioned peel-off sheet (4) also has a peel-off layer (14) on the surface, but it is preferable that the peel-off layer (12) of the abovementioned film is more heavily peel-off treated in comparison with said peel-off layer (14), and that the sheet (1) adhered to the upper surface of the film is more difficult to peel away than the film.

To use the abovementioned adhesive sheet with film, it is preferable to peel the whole assembly away from peel-off sheet (4), and then to affix it to the postcard or other part to be affixed to (15), and by doing so, it is possible to conceal the writing side of the part to be affixed to (15) with the sheet (1). Then, to break the seal at the necessary time, by taking the end part of the abovementioned tongue piece (7), because the peel-away guide part such as the non-adhesive layer part (10) (Figure 6) or the non-adherent part (11) (Figure 7) or the like is formed on the underside of said tongue piece, the tongue piece (7) can be peeled away easily, after which it is possible to pull away the cover part (17) of the sheet using the end edge (16) as a hold. In this way, the abovementioned film (2) is revealed, and so it is possible to see through to the writing side or the like of the part to be affixed to (15). Further, because the abovementioned tongue piece (7) can be torn away from the cover part (17), one can determine that the seal has been broken.

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The abovementioned adhesive sheet with film can be made using the manufacturing device shown in Figure 8 and onwards.

In the figures, peel-off sheet (4) with peel-off layer (14) formed on the surface and stencil paper constructing the sheet (1) are respectively sent via transferring means such as sending rollers (18), (19), provided in each position. Then, adhesive (22) is coated by coating means such as coating rollers (20), (21), onto the underside of sheet (1) and the surface of peel-off sheet (4). At this time, an adhesive layer may be formed on all of peel-off sheet (4), or, as

shown in Figure 9, a plurality of lines of adhesive layers (13)... may be formed. In this case, a knife (23) having a projection suitable for removing adhesive may be attached to the coating rollers, or the adhesive may be coated using a roller with a gully attached (not shown) which gully is formed to be concave so that the adhesive does not stick. Further, in the abovementioned sheet (1), as shown in Figure 10, an adhesive layer (8) is formed on all of the underside, but when the abovementioned non-adhesive layer (10) is provided, a knife (24) or the like having projections for removing the adhesive at appropriate places may be provided.

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After coating with adhesive, said sheet (1) and peel-off sheet (4) are sent to the heating part (25), and the adhesive is dried. At this time, the temperature of the heating part may be from 70°C to 120°C, but this temperature should not damage sheet (1) and peel-off sheet (4).

Film (2) having a peel-off layer (12) which has been heavily peel-off treated in comparison with the peel-off layer (14) of the abovementioned peel-off sheet is positioned subsequent to the abovementioned heating means, and while the abovementioned peel-off sheet (4) is being transferred, it is overlapped with the face coated with adhesive and adhered thereto, this is then sandwiched together by pressure roller (26) and rubber roller (27) and sent (Figure 11). Since the abovementioned film (2) is adhered to all of the peel-off sheet (4) as shown in the figure, the parts which correspond to parts where the abovementioned adhesive layers (13)... are not formed are useless. Accordingly, cuts (29) are made in said film (2) along the edge part of the adhesive layer, using a slitter blade (28), and belt-shaped useless parts (30)... are suctioned using suction pipe (31) and removed (Figure 12). In this state, as shown in Figure 13, film (2) is adhered to the upper surface of peel-off sheet (4).

After this, the face coated with adhesive of the abovementioned sheet (1) is superposed on the upper surface of the abovementioned film (2), and sandwiched together by pressure roller (32) and rubber roller (33), to adhere both parts (Figure 14). In this state, since a plurality of adhesive sheets with film are established in a row, if these are cut (35) in the part where the abovementioned adhesive layer (13) is not formed using a slitter blade (34), a plurality of sheet materials (36) in which film (2) and sheet (1) are adhered on the surface of the peel-off sheet (4) can be obtained at one time.

A product like that shown in Figure 1 can be obtained if the sheet material (36) obtained as above is set in a printing machine, the surface of the sheet is printed appropriately, the sheet and the film are punched into the appropriate shapes whilst perforated lines are formed in the sheet, and then the useless parts are removed. Figure 15 shows one example of a printing machine, and the abovementioned sheet material (36) is separated into a sheet part (37) having an adhesive layer, and a peel-off sheet part (38) having a film, and the surface of the

sheet part (37) is printed using plate roller (39). At this time, in order to form a non-adherent part (11) on the adhesive layer (8) by printing as detailed above, a paste face printing device (40) may be provided on the face which has been coated with adhesive of sheet part (37) and printed appropriately. After this, the abovementioned sheet part (37) and the peel-off sheet part (38) are superposed, sandwiched together using pressure roller (41), and a punching device (42), such as a rotary die cutter or a flat die cutter, is used to punch the abovementioned sheet part (37) and film (2) into the appropriate shape and to form perforated lines (5), (5), (6) in the sheet. The peripheral useless parts (43) are taken away, to obtain product (44).

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It should be noted that in the abovementioned manufacturing device and printing device, the surface of the rollers which contact the adhesive layer may be treated with silicon, Teflon or another such non-adherent material.

15 Configuring the present invention as described above means that easy-to-use adhesive sheet with film can be obtained and that this type of sheet can be made economically.

4 Brief description of the figures

The figures show embodiments of the present invention, where:

20 Figure 1 is a perspective view;

Figures 2 and 3 are part exploded sections;

Figures 4 and 5 are explanatory views separating and showing the respective constructional parts;

Figures 6 and 7 are part perspective views showing the use state;

Figure 8 is a side surface view of the manufacturing device;

Figures 9 to 14 are respective explanatory views during the manufacturing process, with:

Figure 9 being a perspective view of the state in which the adhesive has been coated onto the peel-off sheet;

Figure 10 being a front surface view of the sheet coated with adhesive;

Figure 11 being a perspective view of the state in which film is adhered to the peel-off sheet;

Figure 12 being a plan view of the suction pipe part;

Figure 13 being a front surface view of the state in which the useless parts of the film have been removed; and

Figure 14 being a front surface view of the state in which the sheet is adhered on top of the

35 film; and

Figure 15 is a side surface view of one example of the printing machine.

1 sheet

- 2 film
- 4 peel-off sheet
- 5, 6 perforated line

5 Patent applicant

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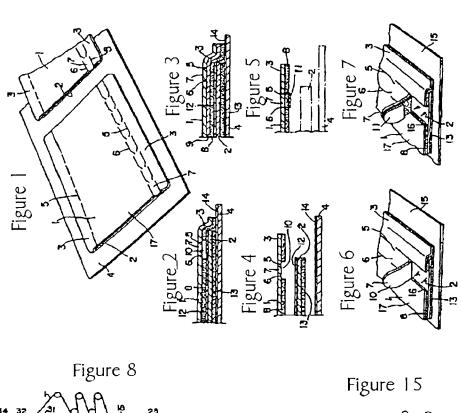
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ADHESIVE SHEET WITH FILM AND ITS MANUFACTURING DEVICE

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Abstract

PURPOSE:To allow the section to be attached to be covered until sheet is separated from film by forming an adhesive layer on the under surfaces of the sheet and the film, attaching the film with a peel-apart layer on the surface of the adhesive layer of the sheet, and forming a guide section for peel-apart on a part of the sheet with a defined cut-off section.

CONSTITUTION: Sheet 1 has film 2 of a material which allows itself to be seen through on the under surface, and the under surface of the film and the extended section of the sheet are attached to peelapart sheet 4. Cut-off lines 5, 5 are provided inside the periphery of the film 2, and a tongue-shape piece 7 is formed along one cut-off line 5 to define the other cut-off line 6. When the adhesive sheet with film is used, the whole sheet is separated from the peel-apart sheet 14 and is attached to a post card or any other materials. In this way, the descriptive surface of the material can be covered with the sheet 1. Then the tongue- shape piece 7 can be peeled apart by holding the end of the piece whenever necessary. Furthermore, the covered section 17 of the sheet can be separated by using the rear edge 16 of the piece as a guide. Thus the film 2 is allowed to come out of the sheet and the descriptive surface of the material 15 can be seen through.

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フイルム付粘着シート及びその製造装置

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個発 明

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発明の名称

フィルム付粘着シート及びその製産装置

- 2 特許請求の範囲
 - /、 シートの下面に粘着剤層を形成し、該粘着剤 層に裏面に剥濫層を有するフイルムを接着し、 該フイルムの下面に粘着剤層を設け、上記シー ト代譲フイルムを現出するよう引取線を形成し、 **数切取額により画成された上記シートの一部に** 刺取案内部を形成したフィルム付粘着シート。
 - 2、 上記剥取案内部は、シートの下面に設けた非 粘着利層部である請求項!記載のフイルム付粘
 - 3、 上記制取案内部は、シートの下面の粘着剤層 がフィルムに接着しないように形成した非接着 邸である請求項/配装のフィルム付粘着シート。
 - 4、 上記シートの下面に不透視性の違蔽層を設け ておる謂求項!記載のフィルム付粘着シート。
 - 5. シートと利用シートをそれぞれ移送する手段、 シートの下面及び刺媒シートの表面にそれぞれ

粘着剤を強布する手段、粘着剤を強布した上記 シート及び剥離シートを加熱する手段、粉盤シ - トの粘着剤塗布面に表面に針種用を有するっ イルムを侵漕する手段、上記シートの粘着剤強 布面を該フイルムの姿面に接着する手段を具備 するフイルム付粘着シートの製造装置。

発明の詳細な説明

本発明は、開封するまで被貼付部を隠蔽できる ようにしたフイルム付粘着シート及びその製造装 重に関する。

素書その他の書類の記載面や物品等の特定部分 を隠蔽するため、透明なフイルムと数フイルム化 級着 したシートを乗 書等に 貼付 することが 遅実 さ れているが、開封時に容易に制すことができなか つたり、きれいだ開封できないことがあり、また 製査が面関で経済的に符られないものが多かつた。

本発明はそのような欠点を改善しその他の種々 の特長を有するようシートの下面に、表面に刺媒 暦を有するフィルムを接着し、 該フィルムの下面 化粘着剤原を設け、鉄粘着剤層を薬毒等の被貼付

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部に影響するようにし、かつ上記フイルムを現出するため上記シートに引取線を設け該切取線により面広されたシートの一部に剥取案内部を形成したフィルム付給着シートに係るものである。

また、本発明によれば、フィルム付給 を設立するようシートと刺繍シートの表面にと刺繍シートの表面にと刺繍シートの表面に、 の数があるでは、 の数があるでは、 の数があるでは、 を変したが、 の数があるでは、 の数があるでは、 の数があるでは、 の数があるでは、 の数があるでは、 のなが、

以下実施例を示す図面と共に辞継に説明する。 第/図は、本発明のフィルム付粘着シートの斜 視図を示してある。シート(1)は下面にフィルム(2) を接着してあり、該フィルムの下面及び上記シー

ができ、弟よ図、第4図に示すように、舌片に沿って着しくは舌片の刺取始めの部分に、粘液剤層を設けないで非粘着剤層区(のり抜き)如を形成したり、海よ図に示すように粘着剤層(8)の下面にインキ、ニス、メジュウム等を印刷して非接着部(のり登し)如を設けてある。

上記フイルム(2) は透明乃至有色透明の透視可能な材質で形成され、表面に制態層四を設け、下面に粘着剤層四を形成してある。上記制能シート(4) も安面に制度層段を有しているが、設制離層(4) に比べて上記フイルムの刺煙層(2) を重測態処理し、フイルムの上面に接着されたシート(1) の方がフィルムより剥れにくくなるようにするとよい。

上記ァイル本付粘着シートを使用するには、剥緩シート(4)から全体を刺し、薬者その他の被貼付部時に貼付ければよく、このようにすれば被貼付部時の記載面等をシート(1)により隠蔽することができる。そして、必要時に開封するには、上記舌片(7)の端部をつまめば、鉄舌片の下面には非粘着利層部(4)(第4回)や非級着部(1)(第7回)等の

トの延出器(3)が刺覆シート(4)に接着され、数フィ ルム(2)の周疑より内傷に刃攻線(5)、(5)が有り、一 方の切取線(5)に沿つて切取線(6)を形成して舌片(7) を面成してある。 該シートの表面には印刷等によ り遊食の表示を設けることができ、また全体の形 状も円形、三角形その他の遺食の形にすることが できるし、刺繍シートに連続的に設けないで、一 枚ずつ切檻して数け、テペル、レツテルとしたり。 スピードくじとして形成することもできる。上兄 各構成を第2図~第5図を参照して群述すると、 上記シ~~(1)の下面には粘着剤層(8)を形成してあ り、該シートが透視性を有するような場合には、 設站着利暦(8) 化グレー、茶色等の濃い色素を混在 させるようにしたり、第3図に示すように着色っ イルム(4) を貼つたり、シートの要面に食色の印例 を随すことにより遮蔽層を設け、該遮蔽層の下面 **化上記粘着刺暦 (8) を形成するとよい。上記切取鎮** (5)、(6)により画成された舌片(7)の裏面に対応する 200分には、利取を容易にするよう利取案内部を形 宏してある。 該 剝取案内 部は種々に形成すること

割取案内部を形成してあるので、容易に舌片(7)を 割取ることができ、その後 蟾様畑を手がかりとしてシートの復配切を削すことができる。このよう にして上記フイルム(2)は現出するので、被貼付部 切の記載面等を透視することができる。また、上 記舌片(7)が優配切から切取られることにより、開 對した事実が分る。

上記フィルム付粘着シートは、拡よ図以路に示 す製造装置により作ることができる。

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成した原付ロール(図示略)で粘着剤を設布するようにすればよい。また、上記シート(1)には、第/0図に示すように下面の全面に粘着剤暦(16)を形成してあるが、上記非粘剤剤類(10)を設ける場合は、適所に粘着剤を検去する突起を有するドクターナイフ(4)等を設ければよい。

粘着剤生布後、数シート(I)及び剥類シート(4)は、加熱部内に送られ、粘着剤は乾燥される。 このとき、加熱部の温度は約70℃~/20℃に無せられているが、この温度によりシート(I)及び剥離シート(4)が損傷されることはない。

ト部分域に分類され、シート部分のの表面に反口ールでにより印刷をする。この際、上記のように結着列間(18)に印刷により非短着部のを形成可以には、シート部分のの粘着料度を面に関節印刷すればよい。その使上記シート部分のと刺離シート部分機を重ねカットを記し、ローシリーがイカット等の打複重値により、上記くにからいたが、上に切取線(5)、(5)、(6)を形成する。周囲の不要部分傾は抜き取られ、製品(4)が得られる。

なお、上記製造装置及び印刷装置において、粘 着剤層が接する各ロールの表面は、シリコン、テ フロンその他の非接着性材料で処理しておくとよ い。

本発明は上記のように構成され、使用し易いフィルム付粘着シートが得られ、かつこの間シート を経済的に作ることができる。

4 図面の簡単な説明

図面は本発明の実施例を示し、値/図は斜視図、

設フィルム(2)を粘液剤防の超級に沿つて切断凶し、 布状の不要片的…を吸引管側で吸引して除去する (第12回)。このようにした状態では、第13 図に示すように割型シート(4)の上面にフイルム(2) が接着されている。

その後、上記シート(1)の粘着剤造布面を上記フィルム(2)の上面に重ね合せ、揮えロールの3とゴムロールの3で挟着し、両者を接着する(第14回)。この状態では、複数のフィルム付粘着シートが変設されているから、上記粘着剤層のを設けなかつた部分でスリッター列の4により切断の3すれば、刺型シート(4)の表面にフィルム(2)とシート(1)を接着した複数のシート素材のか一変に得られる。

このようにして符られたシート素材ののを印刷機にセットし、シートの表面に適宜印刷し、かつシート及びフィルムを所望形状に打抜くと共にシートに切取機を形成し、不要部分を取り去れば、第 / 図に示す如き製品が得られる。第 / 3 図は印刷機の一例を示し、上記シート素材のは、粘着剤層を有するシート部分のとフィルムを有する刺繍シー

1 … シート、 2 … フイルム、 4 … 制建シート、 5 、 6 … 切取級

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